

# **Nye County**

## **DUST MANAGEMENT HANDBOOK**

**FOR**

## **THE PAHRUMP REGIONAL PLANNING DISTRICT**

December 21, 2004

## **ACKNOWLEDGEMENTS**

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## ATTACHMENTS

- ATTACHMENT 1: Dust Management Plan Forms
- ATTACHMENT 2: Draft Policy on Dust Palliative Use in the Pahrump  
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- ATTACHMENT 3: Dust Control Plan Design and Posting of Signage

## ACRONYMS AND DEFINITIONS

Additional definitions are included in Section 15.28.070 of the Nye County Ordinance.

**Best Management Practices (BMP)** – The suite of the most appropriate control measures for preventing or minimizing the generation of fugitive dust.

**Bulk material** – Any material, including but not limited to, earth, rock, silt, sediment, sand, gravel, soil, fill, aggregate less than 2 inches in length or diameter, dirt, mud, demolition debris, cotton, trash, cinders, pumice, saw dust, feeds, grains, fertilizers, and dry concrete, which is capable of producing Fugitive Dust at an industrial, institutional, governmental, construction, and/or demolition site.

**Control measure** – A technique, practice, or procedure used to prevent or minimize the generation, emission, entrainment, suspension, and/or airborne transport of Fugitive Dust. An action or practice employed to comply with a Control Requirement.

**Control requirement** – A summary statement of the ordinance requirements pertaining to a particular activity or action.

**Dust Control Plan (DCP)** – A plan to formalize a project-specific Fugitive Dust control program.

**Dust palliative** – Hygroscopic material, non-toxic chemical stabilizer or other material which is not prohibited for ground surface application by the federal U.S. Environmental Protection Agency (EPA) or the Nevada Division of Environmental Protection (NDEP) or any applicable law or regulation, used as a treatment material for reducing fugitive dust emissions. Water, solutions of water and chemical surfactants, and foam are not Dust Palliatives for the purpose of these regulations.

**Dust suppressant** – Water or any hygroscopic material, solution of water and chemical surfactants, foam, non-toxic chemical stabilizer or any other Dust Palliative which is not prohibited for ground surface application by the federal U.S. Environmental Protection Agency (EPA) or the Nevada Division of Environmental Protection (NDEP) or any applicable law or regulation, used as a treatment material for reducing Fugitive Dust emissions.

**U.S. EPA** – United States Environmental Protection Agency

**Freeboard** – The distance measured from the upper limit of the side of the storage area of a truck to the fill line.

**Fugitive dust** – Particulate matter, which is not collected by a capture system, and that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. Fugitive Dust is entrained in the air and is caused from human and/or natural activities, such as but not limited to, movement of soil, vehicles, equipment, blasting, and wind.

**NDEP** – Nevada Division of Environmental Protection

**Notice of Alleged Violation (NOAV)** – A notice of an alleged violation of the Nye County Dust Control Ordinance.

**Particulate Emission Potential (PEP)** –The characteristic ability of specific soil types to emit dust.

**Silhouette area** – The area of a shadow produced if a light was shown directly from the opposite side of an object.

**Stable, and/or Stabilized** – Soils are considered stable or stabilized when they are in compliance with the standard set forth per Nye County Ordinance 15.28.130.

**Staging area** – Any portion of a construction project used for storing materials, parking vehicles, and equipment; may be a separate area from the main construction project area.

**Surfactant** – A compound or element that reduces the surface tension of a liquid. The term is used in this document to describe wetting and spray additives designed to promote the economical application of water to hydrophobic soils. Surfactants prevent drifting, decrease run-off, increase the penetrating and wetting properties, and promote more even, consistent spray patterns.

**Tackifier** - A substance used with water to hold together mulches and other dust palliatives, which binds small particles together without forming a hard crust.

**Track-out** – Soil on paved roadways deposited from vehicles that have passed from a construction site or from an unpaved access route or area onto the paved surface.

**Type II Material** – Base Aggregate as defined in Section 704 of the Uniform Standards Specifications for Public Works' Construction Off-Site Improvements, Nye County Area, Nevada.

**Wheel shaker** – A device capable of spreading the tread on tires and shaking the wheels and axles of vehicles for the purpose of releasing mud, soil, and rock from the tires and undercarriage to prevent tracking those materials onto paved surfaces.

**Wheel washer** – A station or device, either temporary or permanent, that utilizes a bath or spray of water for the purpose of cleaning mud, soil, and rock from the tires and undercarriage of vehicles to prevent tracking those materials onto paved surfaces.

**Wobbler** - Type of sprinkler head designed to minimize evaporation of water by enhancing the horizontal spray pattern.

## **INTRODUCTION**

The Nye County Planning Department regulates construction activities that disturb soil in the Pahrump Regional Planning District, Nye County, Nevada. A Dust Control Plan (Plan) is required for most soil-disturbing projects where the total disturbance on one or contiguous parcels by the same operator equals or exceeds 0.5 acre.

A Dust Control Plan must be submitted to and deemed complete by the Nye County Planning Department before soil is disturbed. All plans, forms, and documentation required for submittal to Nye County shall be submitted to the Nye County Planning Department. The Planning Department Offices are located at 250 N. Highway 169, Suite 1, Pahrump, Nevada 89060-4039. The Nye County Planning Department must be notified after the completion of a project.

Each Building Permit application that proposes a disturbance of 0.5 acre or greater must have a Dust Control Plan outlining control measures to prevent fugitive dust. Control measures are based upon soil type and project activities. Soil types are classified based upon particulate emission potential (PEP). A map of the Pahrump Valley soil PEP is provided within this Handbook.

Fugitive dust emission violations are strictly enforced. Owner/operators and contractors are responsible for controlling dust on their projects 24 hours a day, 7 days a week; there are no exceptions. Violators may be required to pay penalties or possibly suspend operations until the Fugitive Dust is mitigated on the construction sites.

This Dust Management Handbook (Handbook) provides a guideline for developing a Dust Control Plan. The Handbook has been divided into the following parts:

### **GENERAL INFORMATION:**

- a. Dust Control Plan Requirements (DCP)
- b. General Construction Project Activities (GEN)

### **BEST MANAGEMENT PRACTICES:**

- a. Soil Particulate Emission Determination Charts and Maps
- b. Best Management Practices (BMP) for Construction Activities

### **ATTACHMENTS:**

- a. Attachment 1 - Dust Control Plan Forms
- b. Attachment 2 - Draft Policy on Dust Suppressant/Palliative/Surfactant Use
- c. Attachment 3 - Dust Control Plan Signage
- d. Attachment 4 - Dust Control Ordinance

## DUST CONTROL PLAN SUMMARY

DCP 01

### REQUIREMENTS:

- Owners/operators and contractors are responsible for controlling dust on their projects 24 hours a day, 7 days a week; there are no exceptions. Violators may be required to pay penalties or possibly suspend operations until the Fugitive Dust is mitigated on the construction sites.
- Plan required for soil-disturbing projects with aggregate disturbances of 0.5 acres or greater.
- **BMP Control Requirements must be addressed by Control Measures.**
- **BMP Control Measures must be followed for every soil disturbing or construction activity.**

### CONTROL MEASURES

1. A Dust Control Plan is required for soil-disturbing or construction projects that disturb an aggregate of 0.5 acres or greater. A Dust Control Plan for Projects with aggregate disturbances of 20 acres or more, which requires review by the Nevada Division of Environmental Protection, should be submitted for Nye County review prior to submittal to the Nevada Division of Environmental Protection.
2. Dust Control Plans may be submitted by the property owner or authorized designee.
3. Dust Control Plan requirements:
  - a. Submit a complete form that includes project vicinity and assessor's parcel maps (see Attachment 1: Dust Control Plan Application Form DCP01). Completed Dust Control Plans should be submitted to Nye County as indicated in the Introduction of this Dust Management Handbook.
  - b. For soil disturbing or construction projects equal to or greater than 0.5 acre, a Dust Control Plan using the Best Management Practices in the Handbook must be submitted. Control Measures must be selected to meet all Control Requirements. Consider project conditions and logistics when identifying and selecting Best Management Practices and Control.
4. A Dust Control sign must be conspicuously posted on every construction site requiring a Dust Control Plan (see Ordinance Section 15.28.150(B)).
5. Copies of the Dust Control Plan and related maps must be supplied to all contractors and subcontractors. A complete copy must be kept at the construction site at all times.



6. Notify Nye County of any proposed modifications to the Dust Control Plan. Submit a Dust Control Plan Modification form DCP06 (see Attachment 1: Dust Control Plan Forms).
7. Dust Control Plans are reviewed as a part of the Building Permit or Site Development application process. Emergency measures are exempt from permitting requirements, but are not exempt from the application of dust mitigation measures or the use of Best Management Practices.

## **DUST CONTROL PLAN SIGNAGE**

**DCP 02**

### **REQUIREMENTS**

- **The Dust Control Plan sign must be placed in a con-spicuous place on the project site prior to commencement of construction activities.**
- **The phone numbers posted on the Dust Control Plan sign must be for a person responsible for project dust control who can be reached during evening and weekend hours.**

### **DUST CONTROL SIGNAGE**

1. The Dust Control Plan sign must be placed on the project site and must be conspicuous to the public. The phone number posted on the Dust Control Plan sign must be for a person who can be reached during evening and weekend hours. That person must be able to implement fugitive dust control Measures.
2. The owner/operator of any project requiring a Dust Control Plan must install a sign on the property prior to the commencement of construction. This sign must measure, at minimum, two (2) feet wide by two (2) feet high, conforming to the Nye County Ordinance regarding the posting of informational signs on construction sites (see Ordinance Section 15.28.150).
3. Projects less than two (2) weeks in duration may request a waiver of the requirement of posting a Dust Control Plan sign.

## **DUST CONTROL PLAN MODIFICATIONS**

**DCP 03**

### **REQUIREMENTS**

- **Modifications must be made on a Dust Control Plan Modification form and submitted Nye County for review.**
- **If modification is in response to a Notice of Violation or Order, it must be noted on the modification form, and corrective action must take place as directed.**

### **PLAN MODIFICATION**

Modifications to a Dust Control Plan can be made with Nye County approval.

2. A Dust Control Plan Modification form must be submitted to Nye County (see Attachment 1: Dust Control Plan Forms)
3. If the parcel changes ownership or you wish to change the owner/operator during the lifetime of a Dust Control Plan, a MODIFICATION OF A DUST CONTROL PLAN – TRANSFER OF PERMIT AND/OR CHANGE OF OWNER form DCP 09 (see Attachment 1) must be submitted, and proof of ownership must be provided with the form.
4. The Dust Control Plan Modification application form must be signed by the owner/operator or written designee.
5. If the modification is in response to a Notice of Violation or Order issued by Nye County, it should be so noted on the modification form. The corrective action must take place as directed. All other Dust Control Plan requirements remain in effect while the modification is being processed.
6. If the selected control measures are inadequate to meet the requirements of Ordinance Section 15.28.130(A), Soil Stabilization Standards of the dust control ordinance, additional or more stringent standards must be selected. A Dust Control Plan Modification form must be submitted.

**Dust Control Plan Closure/Renewal****REQUIREMENTS:**

- **Within 20 working days of the completion of the project, the site must be stabilized and a Certificate of Project Completion form submitted to Nye County.**

**DUST CONTROL PLAN CLOSURE/RENEWAL**

Dust Control Plans must be closed out to document completion of project activities.

1. Within 20 working days of the completion of the project, a Certificate of Project Completion (form DCP08) must be submitted to the Nye County Planning Department (see Attachment 1: Dust Control Plan Forms).
2. A site visit will be conducted to determine if the parcel is properly stabilized. Upon verification of stabilization, the Dust Control Plan will be closed.
3. If the parcel has not been properly stabilized, the owner/operator will be notified of the deficiencies with a Stipulation and Order outlining corrective measures and timelines. Another Dust Control Plan Closure form must be submitted and another site visit will be conducted.
4. The Dust Control Plan is valid for 1 year. If a project is not completed within year, a renewed plan must be submitted.
5. Plan renewal may be accomplished by submitting an updated Dust Control Plan (DCP 01).

**Dust Control Plan Compliance****REQUIREMENTS**

- **Comply with all control measures as required by Nye County ordinance.**
- **Comply with all control measures as directed in a Notice of Violation or Order.**
- **Comply with all control measures listed in Dust Control Plan.**
- **Employ control measures in all phases of construction activities.**

**ORDINANCE OVERVIEW**

1. All owner/operators, contractors, owners, operators, or other persons involved in construction activities must employ the control measures as set forth in their Dust Control Plan as described in this Handbook.
2. The following circumstances constitute a violation of the Nye County Ordinance:
  - (a) Allowing fugitive dust emissions to exceed the standard as set forth in 15.20.080(A), i.e., a visual emission of particulate matter whose opacity exceeds 20 percent using the Time Averaged Method.
  - (b) Failure to submit a complete Dust Control Plan before engaging in activities that disturb or have the potential to disturb soils and/or cause or have the potential to cause fugitive dust to enter the air.
  - (c) Failure to submit a complete Dust Control Plan for all areas subject to construction activities.
  - (d) Conducting a construction activity as defined by Dust Control Ordinance 15.28.070 for which no specified control option is indicated in the Dust Control Plan.
  - (e) Failure to perform any duty to allow or carry out an inspection, entry, or monitoring activity required by Nye County.
  - (f) Failure to implement any item that is listed as a “Requirement” in the Best Management Practices section of the Handbook for an applicable construction activity.

## **DUST CONTROL PLAN COMPLIANCE (continued)**

**DCP 05**

- (g) Failure to implement any Best Management Practice listed in the submitted Dust Control Plan.
- (h) Failure to maintain static (not actively worked) project soils with adequate surface crusting to prevent wind erosion as measured by test method "Soil Crust Determination (The Drop Ball Test)" Ordinance 15.28.130(A) "Stabilization Standards", or alternative Control Measures approved in the Dust Control Plan.
- (i) Failure to comply with any record keeping or miscellaneous requirements of this Section.
- (j) Failure to comply with any other provision of this section.
- (k) Failure to prepare a new plan or renew an existing plan.

### **WARNING LETTER(S)**

When a Code Compliance Officer observes a potential violation of Section 15.28 ordinance, a warning letter may be issued to the owner/operator and/or persons conducting the activity. The Warning Letter will identify the corrective actions that should be taken. If the corrective action is intended to be a permanent change to the methods for dust mitigation on site, a modification to the Dust Control Plan must be filed by the owner/operator to incorporate the Control Measures specified by the warning letter.

### **NOTICE OF ALLEGED VIOLATION**

1. If a Notice of Alleged Violation (NOAV) is received for violation(s) of the dust control ordinance in Section 15.28, it will be accompanied by a form entitled "Option Letter." The following choices will be presented:
  - (a) **Contest neither the "facts alleged" nor the "penalty;"**
  - (b) **Contest the facts alleged in the NOAV and request an appearance before a Nye County Code Compliance Officer.** This option should be selected if the alleged facts of the NOAV can be reasonably disputed. Proper and complete documentation of fugitive dust mitigation measures should be submitted with the Option Letter; or

## **DUST CONTROL PLAN COMPLIANCE (continued)**

**DCP 05**

- (c) **Contest the penalty assessed.** In this instance, the alleged facts are not contested, only the penalty is considered inappropriate. When appearing before the Nye County Code Compliance Officer the testimony should be focused on the factors regarding the penalty.
2. The NOAV also will identify the corrective action(s) and the date by which the corrective action(s) must be implemented. If the corrective action is intended to be a permanent change to the methods for dust mitigation on site, a modification to the Dust Control Plan must be filed by the owner/operator to incorporate the Control Measures specified by the NOAV.
3. If you wish to contest the NOAV, an enforcement conference with the Compliance Review Committee must be scheduled. You must contact the Code Compliance Officer to schedule the enforcement conference.

### **APPEALING A NOTICE OF VIOLATION**

If the Nye County Compliance Review Committee rules on the NOAV, and you are not satisfied with the results, you may request an appeal hearing. The appeal will be heard *de novo*. Therefore, any information you wish to be considered must be brought to the Appeal Hearing.

There is a 10-day time limit in which to appeal the decision(s) of the Compliance Review Committee. A "Request for Appeal Hearing" form (DCP 09) must be submitted to Nye County. Appeals must be received within 10 days of receipt of the Stipulation and Order. You will receive an "Order to Pay" from the Code Compliance Officer. Enclosed with that Order will be the information for the appeal process.

### **PENALTY STRUCTURE**

The penalty structure for calculation of fines is defined in the Nye County Pahrump Regional Planning District Penalty Policy and Guidance Documents. Penalties are assessed for violation(s) of the Nye County Dust Control Ordinance, including but not limited to:

- violations of the Dust Control Plan;
- failure to maintain soils in a damp, crusted, or stabilized condition, or to clean track-out from paved roads;
- fugitive dust emissions;
- non-compliance with a Stipulation or Order;
- failure to post signs;

- failure to prepare, modify, or renew a dust control plan.

The maximum penalty amount may not exceed \$10,000 per day per violation.



**Dust Control Plan Compliance****REQUIREMENTS**

- Pay fees as required for Dust Control Plan review.
- Pay fees as required for Dust Control Plan renewal.
- Pay fees as required for Dust Control Plan modification
- 

**DUST CONTROL PLAN FEE STRUCTURE**

Fees for Nye County staff technical review of Dust Control Plans required by this Handbook and final inspection at Dust Control Plan Closure shall be assessed as follows:

1. New or Renewed Dust New Dust Control Plan:

- a. New Dust Control Plan applications having an aggregate disturbance of up to 1 acre - \$50.
- b. New Dust Control Plan applications having an aggregate disturbance of greater than 1 acre up to 20 acres - \$50/acre rounded up to the nearest full acre.
- c. New Dust Control Plan for projects disturbing an aggregate of more than 20 acres will be assessed a fee of \$1,100.

2. Dust Control Plan Modifications:

Substantive Dust Control Plan modifications (all modifications other than point of contact), regardless of reason for modification :

- a. Projects having an aggregate disturbance of up to one acre - \$50
- b. Projects having an aggregate disturbance of up of one acre or more - \$50/acre rounded up to the nearest full acre.
- c. Projects disturbing an aggregate of more than 20 acres will be assessed a fee of \$1,100.

**Project Phasing****CONTROL MEASURES**

1. The Dust Control Plan must address all phases and stages of the construction project. For projects with large cut and fill requirements, the land not active after the cut and fill must be stabilized using a palliative or other approved Control Measure and vehicle access must be prevented. Owner/operators should also limit the area disturbed at any one time, to the extent possible.
2. The construction project may consist of a single phase or be divided into as many phases as the owner/operator chooses. Each phase must have distinct physical boundaries to make it easily identifiable.
3. When project stages are identified, the following information must be provided for each project stage:
  - a. Stage number and title;
  - b. Amount of acreage included in stage;
  - c. Control Requirements for activity; and
  - d. Best management practice control measures to be implemented to meet Control Requirements.

4. Project planning for dust control is an effective method for reducing potential emissions on a construction site. Project planning may include the following procedures:
  - a. Reducing the size of the staging area;
  - b. Disturbing only a portion of the overall site at one time;
  - c. Paving roadways as soon as possible;
  - d. Constructing block walls as soon as possible;
  - e. Planting perimeter vegetation with greater than 50 percent silhouette areas at the beginning of the project;
  - f. Limiting the number of ingress and egress points;
  - g. Paving parking lots as soon as possible;
  - h. For large cut and fill projects, stabilizing the portion of the construction site not being actively worked for the period of time it is vacant; or
  - i. Confine import haul traffic to compacted or paved routes, where possible, to avoid picking up soil and rock in tire treads.

**Recording Dust Control Measures****REQUIREMENTS**

- Record use of dust palliatives and suppressants.
- Record track-out conditions and cleanup.
- Notify Nye County staff when project is complete.
- Record verification of compliance with all applicable dust control measures.
- Notify Nye County staff of compliance with a Notice of Violation or Order.
- Retain project records.

**CONTROL MEASURES**

1. Document all use of Dust Palliatives on the Dust Palliative Information form DCP06 (see Attachment 1: Dust Control Plan Forms).
2. Record track-out conditions daily and document cleanup measures taken.
3. Record other dust control measures taken, including date, time, and amount of water applied for dust control purposes.
4. Notify Nye County staff of compliance with any Notice of Violation or Order issued.
5. Notify Nye County staff upon completion of project.
6. Retain all project records for one year or six months beyond project completion, whichever is greater.

**Weather Conditions****REQUIREMENTS**

- **Monitor current weather conditions and weather predictions from National Weather Service.**
- **Cease all construction activities if fugitive dust cannot be controlled.**

**CONTROL MEASURES**

1. When winds occur that cause fugitive dust emissions, despite adhering to all Best Management Practices, all construction activities must cease immediately, except the operation of water trucks, which may continue to operate.
2. Water trucks should continue to operate under these circumstances unless wind conditions are such that continued operation of watering equipment cannot reduce fugitive dust emissions or visibility is limited to an extent that it is hazardous to continue operating equipment.

# **BEST MANAGEMENT PRACTICES FOR DUST CONTROL**

Best Management Practices (BMPs) are site-specific dust Control Measures that are based on each project soil type, specific construction activities, phases and stages. These practices must be included in each Dust Control Plan and are established to meet the goal of reducing particulate emissions from construction sites. Additionally, some practices are designed for the purpose of reducing the amount of water needed for dust control.

## **1. Soil Type Categories**

Soil types are classified into two categories (high (H) and low (L)) based on their particulate emission potential (PEP). PEP is determined by soil silt content (measured by the soil percentage that will pass through a 200-mesh sieve).

Figure 1 is a map of the Nye County portion of the Pahrump Valley delineating the soil PEP categories.

## **2. Best Management Practices**

The following subsections list the current BMPs developed and approved for use in Nye County for dust mitigation for construction activities. The BMPs are organized alphabetically by construction activity.

The control requirements of each construction activity category to be conducted on the construction project must be met through implementation of control measures. Within most construction activity categories, there are choices of control measure(s) to be selected from to meet the control requirements. Control requirements are stated for each construction activity. All control measures that will be used to meet the control requirements on the construction project must be identified in the Dust Control Plan for each construction activity.

Control measures are presented by soil type category where applicable. Some control measures apply to construction activities regardless of soil type. The control measures selected to meet control requirements must address the soil type for the area in which the construction project is permitted (see Figure 1).

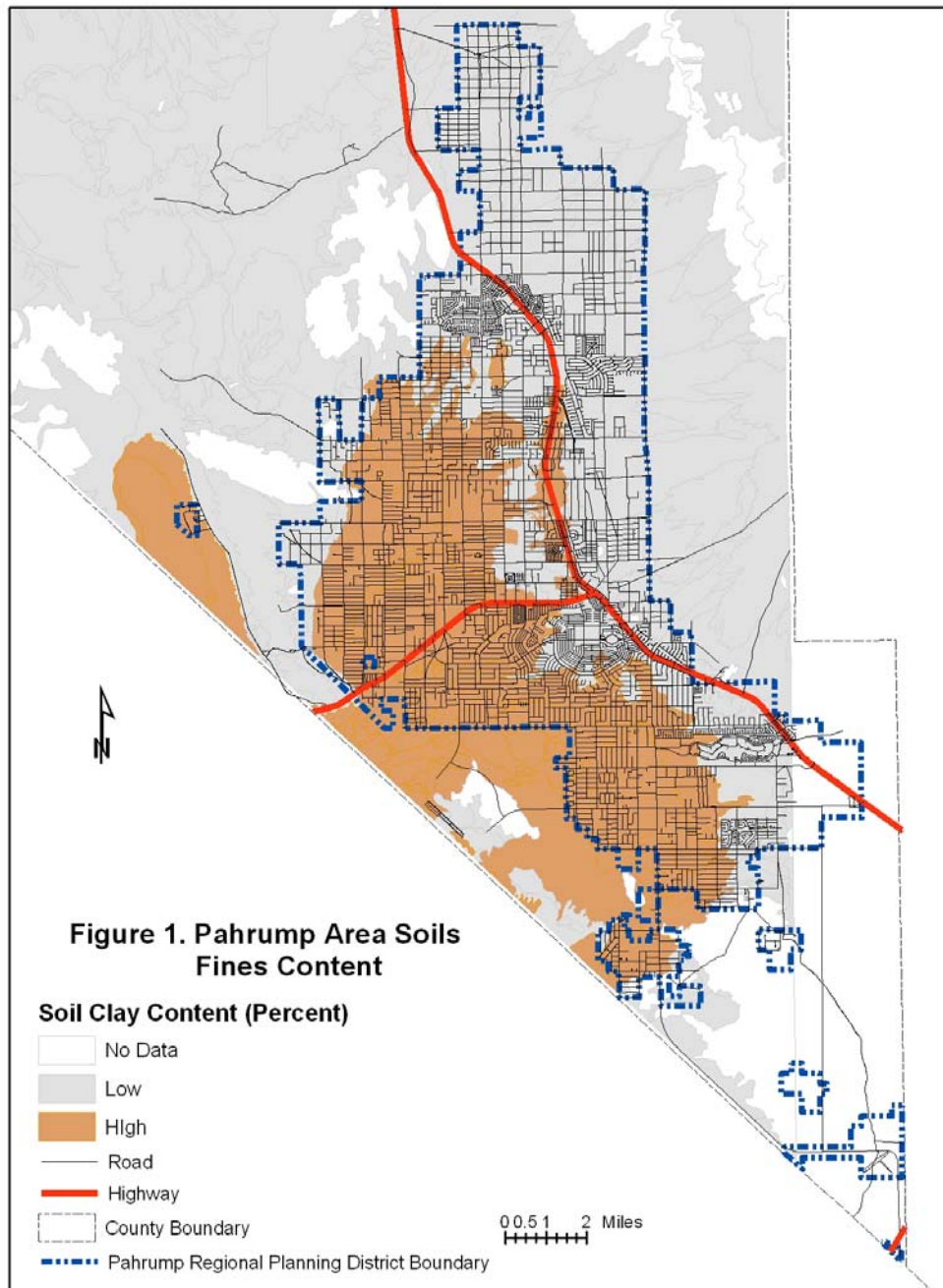
Control measures not currently listed in the Handbook may be proposed in a Dust Control Plan. Such unlisted control measures will be reviewed by Nye County staff and may require additional information regarding their effectiveness. Any control measure not listed in the Handbook must clearly meet the control requirements for an activity category.

Nye County will apply the following minimum criteria when evaluating any unlisted control measures that are proposed to meet the control requirements for a BMP:

1. The control measure technique is a new or alternative technology that is demonstrated to be equally or more effective in meeting the control requirement than the existing control measures; or
2. Site logistics do not practically allow for implementation of a listed control measure as written (e.g. road width or pre-existing barriers limit the size or width of a gravel pad); or
3. The owner/operator demonstrates that a listed control measure is technically infeasible due to site-specific or material-specific conditions, such that implementation of the control measure will not provide a benefit in reducing fugitive dust (e.g. pre-soaking screened, washed rock when handling).

Plan deviations from specific soil type BMPs in the form of a “downgrade” to the BMPs listed for a soil type with a lower PEP, or applying a control measure listed for all soil types in lieu of a specific soil type BMP, are not acceptable unless demonstrated to meet at least one of the above criteria.

**FIGURE 1: PAHRUMP VALLEY SOIL TYPES MAP**





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## **BACKFILLING**

**BMP 01**

Definition: Filling area previously excavated or trenched.

**Requirement: Stabilize backfill material when not actively handling.**

- 01-1 Water backfill material to maintain moisture or to form crust when not actively handling, or
- 01-2 Apply and maintain a Dust Palliative to backfill material to form crust when not actively handling, or
- 01-3 Cover or enclose backfill material when not actively handling.

**Requirement: Stabilize backfill material during handling.**

- 01-4 Empty loader bucket slowly and minimize drop height from loader bucket, or
- 01-5 Dedicate water truck or large hose to backfilling equipment and apply water as needed.

**Requirement: Stabilize soil at completion of backfilling activity.**

- 01-6 Apply water and maintain disturbed soils in a stable condition until permanent stabilization is complete, or
- 01-7 Apply and maintain a dust palliative on disturbed soils to form a crust following backfilling activity.

## **CLEARING AND GRUBBING**

## **BMP 02**

Definition: Clearing and grubbing for site preparation and vacant land cleanup.

**Requirement: Stabilize surface soils where support equipment and vehicles will operate.**

- 02-1 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate, or
- 02-2 Apply and maintain a dust palliative on surface soils where support equipment and vehicles will operate.

**Requirement: Stabilize soil during clearing and grubbing activities.**

- 02-3 **L:** Apply water during clearing and grubbing activities.
- 02-4 **H:** Apply water and surfactant or tackifier mixture during clearing and grubbing activities.

**Requirement: Stabilize disturbed soil immediately after clearing and grubbing activities.**

- 02-5 Water disturbed soils to form crust immediately following clearing and grubbing activities, or
- 02-6 Apply and maintain a dust palliative on disturbed soils to form crust immediately following clearing and grubbing activities.

Recommendations: Maintain live perennial vegetation and desert pavement where possible.

## **CUT AND FILL**

## **BMP 03**

Definition: Cut and/or fill soils for site grade preparation.

**Requirement: Stabilize surface soils where support equipment and vehicles will operate.**

- 03-1 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate, or
- 03-2 Apply and maintain a dust palliative to surface soils where support equipment and vehicles will operate.

**Requirement: Pre-water soils.**

- 03-3 Dig a test hole to depth of cut or equipment penetration to determine if soils are moist at depth. Continue to pre-water if not moist to depth of cut.
- 03-4 **L:** Pre-water with sprinklers or wobblers to allow time for penetration.
- 03-5 **L:** Pre-water with water trucks or water pulls to allow time for penetration.
- 03-6 **H:** Pre-water with a water and surfactant or tackifier mixture using sprinklers or wobblers to allow time for penetration.
- 03-7 **H:** Pre-water with a water and surfactant mixture or tackifier using water trucks or water pulls to allow time for penetration.

**Requirement: Stabilize soil during cut activities.**

- 03-8 Apply water, using water truck or water pull, to depth of cut prior to subsequent cuts, or
- 03-9 No cut activities fill only.

**Requirement: Stabilize soil after cut and fill activities.**

- 03-10 Water disturbed soils to form crust following fill and compaction, or
- 03-11 Apply and maintain a Dust Palliative on disturbed soils to form crust following fill and compaction.

See also: BMP 05: DISTURBED LAND – Long-Term Stabilization if no continuing activity will occur within 30 days.

## **DISTURBED SOIL**

## **BMP 04**

Definition: Disturbed soil throughout project including between structures.

**Requirement: For each non-linear project to be permitted for five acres or more; install perimeter wind barrier three feet or more in height made of material with a porosity of 50 percent or less.**

**Requirement: Limit vehicle traffic and disturbance of soils where possible.**

- 04-1 Limit vehicle traffic and disturbance of soils with the use of fencing, barriers, barricades, and/or wind barriers.

**Requirement: Stabilize and maintain stability of all disturbed soil throughout construction site.**

**Note: You must choose one or both of the following.**

- 04-2 Apply water to stabilize disturbed soils. Soils must be kept in a sufficiently damp, crusted or covered condition.
- 04-3 Apply and maintain a Dust Palliative based on soil type and future plans.

**Requirement: Soil conditions, including preventive and corrective measures, must be recorded every day the construction project is active.**

- 04-4 Record soil conditions and dust control actions in daily project records.

Recommendations: If interior block walls are planned, install as early in the construction as possible.

See also: BMP 05: DISTURBED LAND – Long-Term Stabilization, if no continuing activity will occur within 30 days.

## **DISTURBED LAND – Long-Term Stabilization**

## **BMP 05**

Definition: Large tracts of disturbed land that will not have continuing activity for more than 30 days.

### **Requirement: Stabilize soil**

- 05-1      Apply and maintain a Dust Palliative on disturbed soils for long-term stabilization, or
- 05-2      Stabilize disturbed soil with vegetation for long-term stabilization, or
- 05-3      Pave or apply surface rock for long-term stabilization, or
- 05-4      Use wind breaks in accordance with a site-specific plan, or
- 05-5      Apply water and maintain soils in a visible damp or crusted condition for temporary stabilization.

### **Requirement: Prevent access to limit soil disturbance.**

- 05-6      Prevent access by fencing, ditches, vegetation, berms or other suitable barrier or means.

Recommendations: Plant perimeter vegetation early. Use of native and drought-tolerant plants with greater than 50 percent silhouette area is encouraged.

See also: BMP 06: DUST SUPPRESSANT, DUST PALLIATIVE AND SURFACTANT – Selection and Use.

## **DUST PALLIATIVE – Selection and Use**

## **BMP 06**

**Definition:** Selection and use of chemical and organic dust suppressing agents and other dust palliatives.

**Requirement:** Follow the “Draft Policy on Dust Palliatives Use In the Pahrump Regional Planning District, Nye County, Nevada” (see Attachment 2).

**Requirement:** Record use of suppressants and Dust Palliatives and retain records.

**Requirement:** Follow applicable federal and state regulations.

**Requirement:** Select method of long-term stabilization taking into consideration future land use.

- 06-1 For traffic area applications use Table 1: Traffic Area Application Requirements, Appropriate Use of Liquid Dust Palliatives and Application Rates, from the Draft Policy on Dust Palliatives Use In the Pahrump Regional Planning District, Nye County, Nevada, or
- 06-2 For non-traffic area applications use Table 2: Non-Traffic Area Application Requirements, Appropriate Use of Liquid Dust Palliatives and Application Rates, from the Draft Policy on Dust Palliatives Use In the Pahrump Regional Planning District, Nye County, Nevada.

## **IMPORTING/EXPORTING SOIL, ROCK AND OTHER BULK MATERIAL**

### **BMP 07**

Definition: Importing or exporting of soil, aggregate, decorative rock, debris, Type II and other bulk material.

**Requirement: Limit visible dust opacity from vehicular operations.**

- 07-1      Apply water and limit vehicle speeds to 15 mph on the work site, or
- 07-2      Apply and maintain dust suppressant on haul routes.

**Requirement: Check belly-dump truck seals regularly and remove any trapped rocks to prevent spillage.**

**Requirement: Maintain 12 inches of freeboard to minimize spillage.**

**Requirement: Stabilize materials during transport on site.**

- 07-3      Use tarps or other suitable enclosures on haul trucks, or
- 07-4      Stabilize materials with water.

**Requirement: Clean wheels and undercarriage of haul trucks prior to leaving construction site.**

Recommendations: Verify State and local laws, concerning the hauling of bulk materials on public roadways.

See also: BMP 12: TRACKOUT PREVENTION AND CLEANUP.  
BMP 15: TRUCK LOADING.



## **LANDSCAPING**

## **BMP 08**

Definition: Installation of sod, decorative rock, desert or other landscape material.

### **Requirement: Stabilize soils, materials and slopes during handling.**

- 08-1     **L :** Apply water prior to leveling or any other earth moving activity to keep the soil moist throughout the process.
- 08-2     **H:** Apply a water and surfactant or tackifier mixture prior to leveling or any other earth moving activity to keep the soil moist throughout the process.

### **Requirement: Stabilize soils, materials and slopes at completion of activity.**

- 08-3     Stabilize sloping surfaces using soil binders until vegetation or ground cover can effectively stabilize the slope, or
- 08-4     Apply water and maintain sloping surfaces in a crusted condition, or
- 08-5     Maintain effective cover over materials.

## **PAVING/SUB-GRADE PREPARATION**

## **BMP 09**

Definition: Sub-grade preparation for paving streets, parking lots, etc.

### **Requirement: Stabilize soils prior to activities.**

- 09-1 Pre-water sub-grade surface until adequate moisture content is reached and maintained.

### **Requirement: Stabilize soils during activities.**

- 09-2 Maintain at least 70 percent of optimum moisture content for Type II material while aggregate is being applied.

### **Requirement: Stabilize soils following activities.**

- 09-3 Place tack coat on Type II aggregate base immediately after it is applied, or
- 09-4 Apply water to Type II aggregate base immediately after it is applied.

### **Requirement: Stabilize adjacent disturbed soils following paving activities.**

- 09-5 Stabilize adjacent disturbed soils following paving activities by crusting with water, or
- 09-6 Stabilize adjacent disturbed soils following paving activities by applying a dust palliative, or
- 09-7 Stabilize adjacent disturbed soils following paving activities with immediate landscaping activity or installation of vegetative or rock cover, or
- 09-8 Ensure that soils remain undisturbed adjacent to paving activities.

## **STAGING AREAS**

## **BMP 10**

Definition: Staging areas, equipment storage and material storage areas.

### **Requirement: Limit visible dust opacity from vehicular operations.**

- 10-1 Limit vehicle speeds to 15 mph in the staging area and on all unpaved access routes, or
- 10-2 Apply and maintain dust suppressant on all vehicle traffic areas in the staging areas and unpaved access routes.

### **Requirement: Stabilize staging area soils during use.**

- 10-3 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate, or
- 10-4 Apply and maintain a dust palliative to surface soils where support equipment and vehicles will be operated.

### **Requirement: Stabilize staging area soils at project completion.**

- 10-5 Apply a dust palliative, or
- 10-6 Apply screened or washed Type II aggregate, or
- 10-7 Use wind breaks in accordance with a site-specific plan, or
- 10-8 Chip seal, or
- 10-9 Completed project will cover staging area with buildings, chip seal, pavement, and/or landscaping, or
- 10-10 Apply water to form adequate crust, and prevent access.

Recommendations: Limit size of staging areas.

Limit ingress and egress points.

See also: BMP 12: TRACKOUT PREVENTION AND CLEANUP

## **STOCKPILING**

## **BMP 11**

Definition: Stockpiling of emissible or excavated material for future use or export.

**Requirement: To the extent possible, maintain stockpile to avoid steep sides or faces.**

- 11-1 Stockpiles will not be constructed over eight feet in height, or
- 11-2 Stockpiles constructed over eight feet high must have a road bladed to the top to allow water truck access or must have a sprinkler irrigation system installed, used and maintained.

**Requirement: Stabilize surface soils where support equipment and vehicles will operate.**

- 11-3 Pre-water and maintain surface soils in a stabilized condition where support equipment and vehicles will operate, or
- 11-4 Apply and maintain a dust palliative on surface soils where support equipment and vehicles will operate.

**Requirement: Stabilize stockpile materials during handling.**

- 11-5 Remove material from the downwind side of the stockpile, when safe to do so.

**Note: Select at least one of the above; in addition the appropriate control measure for your soil type must be selected from the following.**

- 11-6 **L:** Apply water during stacking, loading and unloading operations.
- 11-7 **H:** Apply a water and surfactant or tackifier mixture during stacking, loading and unloading operations.

**Requirement: Stabilize stockpiles at completion of activity.**

- 11-8 Water stockpiles to form a crust immediately at the completion of activity, or
- 11-9 Apply and maintain a Dust Palliative to all outer surfaces of the stockpiles, or
- 11-10 Provide and maintain wind barriers on three sides of the pile, whose length is no less than equal to the length of the pile, whose distance from the pile is no more than twice the height of the pile, whose height is equal to the pile height, and made of material with a porosity of 50 percent or less, or
- 11-11 Apply a cover or screen to stockpiles.

## **TRACK-OUT PREVENTION AND CLEANUP**

## **BMP 12**

**Definition:** Prevention and cleanup of mud, silt and soil tracked out onto paved roads.

**Requirement:** In soils that have a PEP classification of “High,” pave construction activities roadways as early as possible.

**Requirement:** Use of soil to create a ramp for vehicle access over a curb is prohibited.

**Requirement:** Track-out conditions, including preventive and corrective measures, must be recorded daily for every day that the construction project access is used by vehicles.

- 12-1 Record soil conditions and dust control actions in daily project records.

**Requirement:** Prevent dust from track-out.

- 12-2 Immediately clean track-out from paved surfaces to maintain dust control. Track-out must not extend 50 feet or more.
- 12-3 Maintain dust control during working hours and clean track-out from paved surfaces at the end of the work shift/day. Track-out must not extend 50 feet or more and must be cleaned daily, at minimum.

**Requirement:** Install and maintain track-out control devices in effective condition at all access points where paved and unpaved access or travel routes intersect.

- 12-4 Install gravel pad(s) consisting of one to three inch rough diameter, clean, well-graded gravel or crushed rock. Minimum dimensions must be 30 feet wide by three inches deep, and, at minimum, 50' or the length of the longest haul truck, whichever is greater. Re-screen, wash or apply additional rock in gravel pad to maintain effectiveness, or
- 12-5 Install wheel shakers. Clean wheel shakers on a regular basis to maintain effectiveness, or
- 12-6 Install wheel washers. Maintain wheel washers on a regular basis to maintain effectiveness, or
- 12-7 Install wheel shakers in the event that track-out cannot be controlled with gravel pads, or
- 12-8 Install wheel washer in the event that track-out cannot be controlled with gravel pads and wheel shakers, or
- 12-9 Road vehicles will only operate on stabilized surfaces.

(Continued on next page)

**Requirement: All exiting traffic must be routed over selected track-out control device(s).**

- 12-10 Clearly establish and enforce traffic patterns to route traffic over selected track-out control device(s), and
- 12-11 Limit site accessibility to routes with track-out control devices in place by installing effective barriers on unprotected routes.

## **TRAFFIC – Unpaved Routes and Parking Areas**

## **BMP 13**

Definition: Construction related traffic on unpaved interior and/or access roads and unpaved employee/worker parking areas.

### **Requirement: Limit visible dust opacity from vehicular operations.**

- 13-1 Limit vehicle speeds to 15 mph on all unpaved routes and parking areas, or
- 13-2 Apply and maintain Dust Palliative on all vehicle travel areas.

### **Requirement: Stabilize all haul routes.**

- 13-3 Apply water to haul routes and maintain in a stabilized condition, or
- 13-4 Apply a Dust Palliative to haul routes and maintain in a stabilized condition, or
- 13-5 Apply gravel to haul routes and maintain in a stabilized condition, or
- 13-6 Supplement Dust Palliative or aggregate applications with watering, if necessary.

### **Requirement: Stabilize all off-road and parking areas.**

- 13-7 Apply water to off-road traffic and parking areas and maintain in a stabilized condition, or
- 13-8 Apply gravel to off-road traffic and parking areas and maintain in a stabilized condition, or
- 13-9 Apply recycled asphalt (or other suitable material) to off-road traffic and parking areas and maintain in a stabilized condition, or
- 13-10 Apply and maintain a Dust Palliative (designed for vehicle traffic) to off-road traffic and parking areas and maintain in a stabilized condition.

Recommendations: Use of bumps or dips for speed control is encouraged.

Apply paving as soon as possible.

## **TRENCHING**

## **BMP 14**

Definition: Trenching with track or wheel mounted excavator, shovel, backhoe or trencher.

**Requirement: Stabilize surface soils where trenching equipment, support equipment and vehicles will operate.**

- 14-1 Pre-water and maintain surface soils in a stabilized condition where trenching equipment, support equipment and vehicles will operate, or
- 14-2 Apply and maintain a Dust Palliative to surface soils where trenching equipment, support equipment and vehicles will operate.

**Requirement: Presoak soils prior to trenching activities.**

- 14-3 Pre-water surface, pre-trench to 18" depth, soak soils via pre-trench prior to deep trenching.
- 14-4 **L:** Presoak soil with water using sprinklers or wobblers.
- 14-5 **L:** Presoak with water, using water truck.
- 14-6 **H:** Presoak soil with a water and surfactant or tackifier mixture using water trucks.
- 14-7 **H:** Presoak soil with a water and surfactant or tackifier mixture using sprinklers or wobblers.

**Requirement: Stabilize soil during trenching activities.**

- 14-8 **L:** Complete trenching with a dedicated water truck or large hose maintaining water as needed to prevent dust.
- 14-9 **L:** Use spray nozzles mounted on trenching machine.
- 14-10 **H:** Complete trenching with a dedicated water truck or large hose maintaining a water and surfactant or tackifier mixture as needed to prevent dust.

**Requirement: Stabilize soils at the completion of trenching activities.**

- 14-11 Use water to form crust on excavated soil windrow as it is formed, or
- 14-12 Use dust palliative to form crust on excavated soil windrow as it is formed.

Recommendations: Wash mud and soil from equipment at completion of trench to prevent crusting and drying of soil on equipment.

See also: BMP 01: BACKFILLING, if applicable.



## **TRUCK LOADING**

## **BMP 15**

Definition: Loading trucks with materials including construction and demolition debris, rock and soil.

**Requirement: Ensure all loads are covered prior to leaving the construction site and traveling on public roadways.**

**Requirement: Stabilize surface soils where loaders, support equipment and vehicles will operate.**

- 15-1 Pre-water and maintain surface soils in a stabilized condition where loaders, support equipment and vehicles will operate, or
- 15-2 Apply and maintain a Dust Palliative on surface soils where loaders, support equipment and vehicles will operate.

**Requirement: Stabilize material during loading.**

- 15-3 Empty loader bucket slowly and keep loader bucket close to the truck to minimize the drop height while dumping.

**Note: You must select 15-3 if PEP is HIGH in addition one of the following.**

- 15-4 **L:** Mix material with water prior to loading.
- 15-5 **H:** Mix material with a water and surfactant or tackifier mixture prior to loading.
- 15-6 **H:** Spray material with a water and surfactant or tackifier mixture while loading.